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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/530,742 | 01/11/2008 | Andreas Klimmek | 13381/I | 9888 |
| 26646 7590 07/27/2009 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004 | | | | |
| EXAMINER | | | | |
| WOOD, JR, STEVEN A | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2416 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 07/27/2009 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,742

Applicant(s)

KLIMMEK ET AL.

Examiner

STEVEN WOOD

Art Unit

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The instant application having Application No. **10/530742**, which was filed on **10/8/2003** is presented for examination by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 18 – 23, 25 – 31, 33 & 34** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Montpetit (US 6366761 B1).

4. Regarding **claim 18**, Montpetit discloses a control method for managing a transmission capacity of at least one relay station of a transmission system, the control method comprising:

The step of detecting traffic, (Fig. 5; Col. 6, line 67 – Col. 7, line 1; requesting uplink bandwidth), to be transmitted by at least two transmitting stations, (Fig. 3; elements 21a, 21b).

The step of coordinating transmission of the traffic to be transmitted with consideration of traffic already coordinated before within a specified time window and a frequency range allowed for the transmission of the traffic to be transmitted, (Col. 7, lines 49 – 54; pre-assigned frequency/time slots: time periods called “frames,” within which a number of “slots” are defined that correspond to different signal frequencies and subdivisions of time in the uplink communication spectrum).

Wherein the traffic to be coordinated is composed at least of traffic contributions to be transmitted in a store and forward mode, (Col. 2, lines 37 – 39; e-mail (**interpreted as transmitted in a store and forward mode**)), whose traffic volume is defined by a duration of the traffic contribution and a required bandwidth of the traffic contribution, (Col. 7, lines 59 – 63; each slot represents sufficient transmission capacity (**traffic volume**) ((time (**duration**) and signal frequency (**required bandwidth**)).

Wherein the coordinating is performed so that within an area of a frequency-time diagram defined by the allowed specified time window and the allowed frequency range, (Fig. 7), the area of the traffic contributions is maximized by shifting contributions to be transmitted in the store and forward mode within the frequency-time diagram, (Fig. 7; Col. 13, lines 42 – 52; slots previously allocated for transmission of lower priority data packets (e.g., P3 or P4 (**store and forward mode traffic**)) may be preempted in favor of packets having higher priorities (e.g., P1 or P2)), and by coordinating the transmitting stations with each other, (Col. 14, lines 16 – 19; in each frame, a total number of n packets may be simultaneously transmitted by different ground terminals to the servicing satellite during each of p time periods).

Wherein the transmission system includes the at least two transmitting stations, (Fig. 3; elements 21a, 21b), at least one receiving station, (Fig. 3; element 21c; Col. 4, lines 61 – 64; each of the ground terminals 21a, 21b, 21c, and 21d uses a satellite terrestrial interface to send and receive data packets), and a control unit for coordinating the at least one transmitting station, the at least one relay station and the at least one receiving station, (Fig. 3; Col. 5, lines 14 – 17; network operations and control systems 25a and 25b).

Wherein a respective one of the transmitting stations provides for transmission of at least one type of traffic to be transmitted in the store and forward mode, (Col. 7, lines 41 – 42; a ground terminal can transmit a data packet in a data packet send queue to a servicing satellite), a respective receiving station receives the at least one type of traffic to be transmitted in the store and forward mode, (Col. 11, lines 58 – 60; ground terminal that is to receive the data packet), and a respective relay station routes the at least one type of traffic to be transmitted in the store and forward mode from the transmitting station to the receiving station, (Col. 11, lines 58 – 60; data packets are routed through the constellation of satellites), and wherein the control unit coordinating the same performs the control method, (Figs. 3 & 5; Col. 6, lines 12 – 14; a portion of the P1 transmission capacity of the network may be reserved to transmit administrative instructions within the network (**performs the control method**)).

5. Regarding **claim 19**, the rejection of claim 18 is incorporated and only further limitations will be addressed. Montpetit discloses the method, further comprising:

The step of discriminating the types of traffic in the traffic to be transmitted, (Fig. 5; Col. 7, lines 15 – 16; terminal service application (TSA) selects and assigns a priority status to each data packet (block 104)), determining the type of transmission for the respective traffic in response to the discriminated type of traffic, (Fig. 6; Col. 7, lines 36 – 38; four data packet send queues 130, 132, 134, and 136 corresponding to the four priority status levels P1, P2, P3 and P4), and transmitting the traffic in the determined type of transmission from the respective at least one transmitting station, (Col. 7, lines 41 – 42; ground terminal can transmit a data packet in a data packet send queue to a servicing satellite), via the at least one relay station to the respective

at least one receiving station, (Col. 11, lines 58 – 60; data packets are routed through the constellation of satellites (to the satellite that services the ground terminal that is to receive the data packet).

6. Regarding **claim 20**, the rejection of claim 19 is incorporated and only further limitations will be addressed. Montpetit discloses the method, wherein:

The step of discriminating is performed by an identification denoting the type of traffic of the respective traffic, (Fig. 4; Col. 7, lines 19 – 20; priority information field 53).

7. Regarding **claim 21**, the rejection of claim 19 is incorporated and only further limitations will be addressed. Montpetit discloses the method, wherein:

The step of discriminating is performed by an input interface denoting the type of traffic of the respective traffic at which the traffic is input, (Fig. 5; Col. 7, lines 7 – 8 & 15 – 16; data received by a TSA (**input interface**) is placed into the payload of one or more data packets, for each of which TSA selects and assigns a priority status (block 104)).

8. Regarding **claim 22**, the rejection of claim 18 is incorporated and only further limitations will be addressed. Montpetit discloses the method, wherein:

The step of coordinating of the traffic contributions is based on the priority of the traffic contributions, (Col. 6, lines 56 – 58; bandwidth for uplink transmission of a data packet to a servicing satellite overhead is allocated based on the data packet's assigned priority status).

9. Regarding **claim 23**, the rejection of claim 22 is incorporated and only further limitations will be addressed. Montpetit discloses the method, wherein:

The traffic contributions manually input by an operator are prioritized over real-time contributions which have priority over store and forward contributions, (Col. 6, lines 12 – 14; a portion of the P1 transmission capacity of the network may be reserved to transmit administrative instructions within the network; Col. 13, line 65 – Col. 14, line 1; bandwidth allocation rules may be rewritten or revised (**manually input**) by a network administrator; Col. 18, lines 12 – 14; a bandwidth allocation request may include a signal flag that instructs the bandwidth allocation processor (BAP) to give preference to that bandwidth allocation request above the other requests (**prioritized over real-time contributions**)).

10. Regarding **claim 25**, the rejection of claim 23 is incorporated and only further limitations will be addressed. Montpetit discloses the method, wherein:

The traffic contributions manually input by an operator and the real-time contributions occupy a fixed partial area within an area of a frequency-time diagram, (Col. 8, lines 1 – 5; ground terminal is allocated a specified number of slots per frame (**a fixed partial area within an area of a frequency-time diagram**) for transmission of a corresponding number of data packets. For example, a ground terminal may be allocated five slots per frame for transmitting five P1 data packets).

11. Regarding **claim 26**, Montpetit discloses a control unit for managing a transmission capacity of at least one relay station of a transmission system, the control unit comprising:

A detecting arrangement to detect traffic to be transmitted, (Col. 5, lines 2 – 8; data received by the terminal service applications (TSAs) 20a, 20b, 20c, and 20d (**detecting arrangement**) is formatted into one or more data packets).

A coordinating arrangement to coordinate the transmission of the traffic to be transmitted, (Fig. 5; Col. 13, lines 32 – 34; bandwidth allocation processor (BAP) 85 is responsible for managing the allocation of uplink bandwidth), with consideration of traffic already coordinated before within a specified time window and frequency range allowed for the transmission of the traffic to be transmitted, (Col. 7, lines 49 – 54; pre-assigned frequency/time slots: time periods called “frames,” within which a number of “slots” are defined that correspond to different signal frequencies and subdivisions of time in the uplink communication spectrum).

Wherein the traffic to be coordinated is composed at least of traffic contributions to be transmitted in a store and forward mode, (Col. 2, lines 37 – 39; e-mail (**interpreted as transmitted in a store and forward mode**)), whose traffic volume is defined by a duration of the traffic contribution and a required bandwidth of the traffic contribution, (Col. 7, lines 59 – 63; each slot represents sufficient transmission capacity (**traffic volume**) ((time (**duration**) and signal frequency (**required bandwidth**)).

Wherein the coordinating is performed so that within an area of a frequency-time diagram defined by the allowed specified time window and the allowed frequency range, (Fig. 7), the area of the traffic contributions is maximized by shifting contributions to be transmitted in the store and forward mode within the frequency-time diagram, (Fig. 7; Col. 13, lines 42 – 52; slots previously allocated for transmission of lower priority data packets (e.g., P3 or P4 (**store**

and forward mode traffic)) may be preempted in favor of packets having higher priorities (e.g., P1 or P2)).

A control arrangement, (Fig. 3; Col. 5, lines 14; network operations and control systems 25a and 25b), to control a coordinated transmission of the traffic from a respective one of at least two transmitting stations via the at least one relay station to a respective one of at least one receiving station, (Figs. 3, 5, 10 & 11B; Col. 5, lines 16 – 17; transmission by the ground terminals 21a, 21b; Col. 11, lines 58 – 60; data packets are routed through the constellation of satellites to the satellite that services the ground terminal that is to receive the data packet), in response to an output of the coordinating arrangement, (Fig. 5; Col. 9, lines 57 – 61; if sufficient bandwidth has already been allocated (**output of coordinating arrangement**) for transmission of the data packet (block 108), the ground terminal transmits the data packet (block 110)), and to coordinate the transmitting stations with each other, (Col. 14, lines 16 – 19; in each frame, a total number of n packets may be simultaneously transmitted by different ground terminals to the servicing satellite during each of p time periods).

Wherein the transmission system includes the at least two transmitting stations, (Fig. 3; elements 21a, 21b), and the at least one receiving station, (Fig. 3; element 21c; Col. 4, lines 61 – 64; each of the ground terminals 21a, 21b, 21c, and 21d uses a satellite terrestrial interface to send and receive data packets), the respective receiving station receives the at least one type of traffic to be transmitted in the store and forward mode, (Col. 11, lines 58 – 60; ground terminal that is to receive the data packet), and the respective relay station routes the at least one type of traffic to be transmitted in the store and forward mode from the transmitting station to the

receiving station, (Col. 11, lines 58 – 60; data packets are routed through the constellation of satellites).

12. Regarding **claim 27**, the rejection of claim 26 is incorporated and only further limitations will be addressed. Montpetit discloses the control unit, further comprising:

A discriminating arrangement to discriminate the types of traffic in the traffic to be transmitted, (Col. 7, lines 15 – 16; TSA selects and assigns a priority status to each data packet (block 104)), and a determining arrangement to determine the type of transmission for the respective traffic in response to the discriminated type of traffic, (Fig. 6, elements 130, 132, 134, and 136; Col. 7, lines 28 – 38; data packet send queue is maintained in a memory associated with the TSA originating the data transmission. Preferably, separate data packet send queues are defined for each of the different priority status levels P1, P2, P3 and P4).

13. Regarding **claim 28**, the rejection of claim 27 is incorporated and only further limitations will be addressed. Montpetit discloses the control unit, wherein:

The discriminating arrangement discriminates by an identification denoting the type of traffic of the respective traffic, (Fig. 4; Col. 7, lines 15 – 20; TSA selects and assigns a priority status to each data packet (block 104) recorded in the priority information field 53).

14. Regarding **claim 29**, the rejection of claim 27 is incorporated and only further limitations will be addressed. Montpetit discloses the control unit, wherein:

The discriminating arrangement discriminates by an input interface denoting the type of traffic of the respective traffic at which the traffic is input, (Col. 7, lines 7 – 8 & 15 – 16; data received by a TSA (**input interface**) is placed into the payload of one or more data packets, for each of which TSA selects and assigns a priority status (block 104)).

15. Regarding **claim 30**, the rejection of claim 26 is incorporated and only further limitations will be addressed. Montpetit discloses the control unit, wherein:

The coordinating arrangement coordinates the traffic contributions by the priority of the traffic contributions, (Fig. 10; Col. 6, lines 56 – 58; bandwidth for uplink transmission of a data packet to a servicing satellite overhead is allocated based on the data packet's assigned priority status; Col. 13, lines 32 – 34; bandwidth allocation processor (BAP) 85).

16. Regarding **claim 31**, the rejection of claim 30 is incorporated and only further limitations will be addressed. Montpetit discloses the control unit, wherein:

The traffic contributions manually input by an operator are prioritized over real-time contributions which have priority over store and forward contributions, , (Col. 6, lines 12 – 14; a portion of the P1 transmission capacity of the network may be reserved to transmit administrative instructions within the network; Col. 13, line 65 – Col. 14, line 1; bandwidth allocation rules may be rewritten or revised (**manually input**) by a network administrator; Col. 18, lines 12 – 14; a bandwidth allocation request may include a signal flag that instructs the bandwidth allocation processor (BAP) to give preference to that bandwidth allocation request above the other requests (**priority over real-time contributions**)).

17. Regarding **claim 33**, the rejection of claim 31 is incorporated and only further limitations will be addressed. Montpetit discloses the control unit, wherein:

The traffic contributions manually input by an operator and the real-time contributions occupy a fixed partial area within the area of a frequency-time diagram, (Col. 8, lines 1 – 5; ground terminal is allocated a specified number of slots per frame (**a fixed partial area within an area of a frequency-time diagram**) for transmission of a corresponding number of data packets. For example, a ground terminal may be allocated five slots per frame for transmitting five P1 data packets).

18. Regarding **claim 34**, Montpetit discloses a transmission system comprising:

At least two transmitting stations, (Figs. 2 & 3; Col. 5, lines 5 – 6; transmission by the ground terminals 21a, 21b), at least one relay station, (Col. 11, lines 58 – 60; data packets are routed through the constellation of satellites), at least one receiving station, (Col. 11, lines 58 – 60; the ground terminal that is to receive the data packet).

Wherein a respective one of the transmitting stations provides for transmission of at least one type of traffic to be transmitted in the store and forward mode, (Col. 2, lines 37 – 39; e-mail (**interpreted as transmitted in a store and forward mode**); Col. 7, lines 41 – 42; a ground terminal can transmit a data packet in a data packet send queue to a servicing satellite), a respective receiving station receives the at least one type of traffic to be transmitted in the store and forward mode, (Col. 11, lines 58 – 60; ground terminal that is to receive the data packet), and a respective relay station routes the at least one type of traffic to be transmitted in the store

and forward mode from the transmitting station to the receiving station, (Col. 11, lines 58 – 60; data packets are routed through the constellation of satellites),

A control unit for managing a transmission capacity of the at least one relay station of the transmission system, (Col. 5, lines 14 – 17; network operations and control systems 25a and 25b are shown in communication with the satellites; Col. 13, line 30; downlink allocation processor (DAP) 81), the control unit including:

A detecting arrangement to detect traffic to be transmitted, (Col. 5, lines 2 – 8; data received by the terminal service applications (TSAs) 20a, 20b, 20c, and 20d).

A coordinating arrangement to coordinate the transmission of the traffic to be transmitted, (Fig. 5; Col. 13, lines 32 – 34; bandwidth allocation processor (BAP) 85 is responsible for managing the allocation of uplink bandwidth), with consideration of traffic already coordinated before within a specified time window and frequency range allowed for the transmission of the traffic to be transmitted, (Col. 7, lines 49 – 54; pre-assigned frequency/time slots: time periods called “frames,” within which a number of “slots” are defined that correspond to different signal frequencies and subdivisions of time in the uplink communication spectrum).

Wherein the traffic to be coordinated includes at least of traffic contributions to be transmitted in a store and forward mode , (Col. 2, lines 37 – 39; e-mail (**interpreted as transmitted in a store and forward mode**)), whose traffic volume is defined by a duration of the traffic contribution and a required bandwidth of the traffic contribution, (Col. 7, lines 59 – 63; each slot represents sufficient transmission capacity (**traffic volume**) ((time (**duration**) and signal frequency (**required bandwidth**)).

Wherein the coordinating is performed so that within an area of a frequency-time diagram defined by the allowed specified time window and the allowed frequency range, (Fig. 7), the area of the traffic contributions is maximized by shifting contributions to be transmitted in the store and forward mode within the frequency-time diagram, (Fig. 7; Col. 13, lines 42 – 52; slots previously allocated for transmission of lower priority data packets (e.g., P3 or P4 (**store and forward mode traffic**)) may be preempted in favor of packets having higher priorities (e.g., P1 or P2)).

A control arrangement, (Fig. 3; Col. 5, lines 14; network operations and control systems 25a and 25b), to control a coordinated transmission of the traffic from the respective one of at least two transmitting stations via the at least one relay station to the respective one of at least one receiving station, (Figs. 3, 5, 10 & 11B; Col. 5, lines 16 – 17; transmission by the ground terminals 21a, 21b; Col. 11, lines 58 – 60; data packets are routed through the constellation of satellites to the satellite that services the ground terminal that is to receive the data packet), in response to an output of the coordinating arrangement, (Fig. 5; Col. 9, lines 57 – 61; if sufficient bandwidth has already been allocated (**output of coordinating arrangement**) for transmission of the data packet (block 108), the ground terminal transmits the data packet (block 110)), and to coordinate the transmitting stations with each other, (Col. 14, lines 16 – 19; in each frame, a total number of n packets may be simultaneously transmitted by different ground terminals to the servicing satellite during each of p time periods).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. **Claims 24 & 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Montpetit, in view of, Oh (US 6314087 B1).

21. Regarding **claim 24**, the rejection of claim 23 is incorporated and only further limitations will be addressed. Montpetit does not explicitly teach *the method, wherein within the store and forward contributions, the prioritization is performed according to size so that within the store and forward contributions the largest traffic contributions to be transmitted are coordinated first*.

Oh explicitly discloses the method, wherein:

Within the store and forward contributions, the prioritization is performed according to size so that within the store and forward contributions the largest traffic contributions to be transmitted are coordinated first, (Col. 4, lines 55 – 60; if the data size of traffic detected between two stations (301) is greater than a reference value, data being transmitted between the stations is granted the most significant priority order).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Montpetit to incorporate the teaching of Oh to provide a method for

determining a traffic priority order for a network, which method is suitable for efficient data transmission in accordance with respective data characteristics by promptly processing multimedia data (Oh; Col. 2, lines 37 – 41).

22. Regarding **claim 32**, the rejection of claim 31 is incorporated and only further limitations will be addressed. Montpetit does not explicitly teach *the control unit, wherein within the store and forward contributions, the prioritization is performed according to size so that within the store and forward contributions the largest traffic contributions to be transmitted are coordinated first*.

Oh explicitly discloses the control unit, wherein:

Within the store and forward contributions, the prioritization is performed according to size so that within the store and forward contributions the largest traffic contributions to be transmitted are coordinated first, (Col. 4, lines 55 – 60; if the data size of traffic detected between two stations (301) is greater than a reference value, data being transmitted between the stations is granted the most significant priority order).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Montpetit to incorporate the teaching of Oh to provide a method for determining a traffic priority order for a network, which method is suitable for efficient data transmission in accordance with respective data characteristics by promptly processing multimedia data (Oh; Col. 2, lines 37 – 41).

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Wood whose telephone number is (571) 270-7318. The examiner can normally be reached on Monday to Friday 8:00 AM to 4:00 PM.

If attempts to reach the above noted Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao, can be reached at the following telephone number: (571) 272-3174.

The fax phone number for the organization where this application or proceeding is assigned is 571-274-7318. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/S.W./
July 22, 2009
Steven A. Wood
Examiner
Art Unit 2416
/Seema S. Rao/
Supervisory Patent

Examiner, Art Unit 2416